

CLAIMS

The invention is claimed as follows:

1. A fuse block comprising:
 - 5 a body;
 - a plurality of terminals fixed to and exposed on at least one side of the body;
 - and
 - a fuse element contacting at least two of the plurality of terminals.
- 10 2. The fuse block of Claim 1, wherein the body includes a plastic piece.
3. The fuse block of Claim 1, wherein the fuse element includes a resistance wire, a punched element or spiral winding.
- 15 4. The fuse block of Claim 1, wherein the fuse element is surface mounted.
5. The fuse block of Claim 4, wherein the surface mounted fuse element includes multiple strands.
- 20 6. The fuse block of Claim 4, wherein the surface mounted fuse element is provided on a substrate that provides means for electrically connecting the fuse element to the terminals.
7. The fuse block of Claim 1, which includes a first set of terminals and a second set of terminals, wherein the fuse element contacts one of the terminals from the first and second sets.
- 25 8. The fuse block of Claim 7, wherein first and second sets of terminals are arranged in separate rows.

9. The fuse block of Claim 7, which includes a plurality of fuse elements that each contact a unique one of the terminals from the first and second sets.

10. The fuse block of Claim 9, wherein at least two of the plurality of fuse elements have different ratings.

11. The fuse block of Claim 7, wherein at least two terminals from the first set of terminals are electrically connected.

10 12. The fuse block of Claim 7, wherein at least two terminals from the first set of terminals are provided on a strip.

13. The fuse block of Claim 7, wherein each of the terminals of the first set of terminals are electrically connected to a power supply line.

15 14. The fuse block of Claim 1, which includes a plurality of sets of terminals that operate in pairs, wherein at least two terminals of each set of each pair are electrically connected by a fuse element.

20 15. The fuse block of Claim 14, wherein at least two terminals from one of the sets of each pair of sets are electrically connected.

16. The fuse block of Claim 14, wherein at least two terminals from one of the sets of each pair of sets are provided on a strip.

25 17. The fuse block of Claim 14, wherein each of the terminals from one of the sets of each pair of sets are electrically connected to a power supply line.

30 18. The fuse block of Claim 14, wherein each of the pairs of sets of terminals is rated for a desired fuse amperage rating.

19. The fuse block of Claim 14, wherein adjacent pairs of sets of terminals are rated for different fuse amperage ratings.

20. The fuse block of Claim 1, which includes first, second and third sets of terminals, wherein at least one terminal from the first, second and third sets is electrically connected by at least one fuse element.

21. The fuse block of Claim 20, wherein the first, second and third sets of terminals are arranged in separate rows.

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22. The fuse block of Claim 20, wherein the first and third rows are outer rows and are staggered.

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23. The fuse block of Claim 20, which includes a plurality of fuse elements that individually contact at least two terminals from the first, second and third sets of terminals.

24. The fuse block of Claim 20, wherein at least two terminals from one of the first, second and third sets of terminals are electrically connected.

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25. The fuse block of Claim 20, wherein at least two terminals from one of the first, second and third sets of terminals are provided on a strip.

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26. The fuse block of Claim 20, wherein each of the terminals in one of the sets of terminals is electrically connected to a power supply line.

27. The fuse block of Claim 20, wherein the second set of terminals is positioned between the other two sets, and wherein the terminals of the second set are electrically connected to a power supply line.

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28. The fuse block of Claim 20, wherein one of the first, second and third sets of terminals includes double terminals that can individually receive two separate replacement fuses.

5 29. The fuse block of Claim 28, wherein the double terminals receive two separate fuse elements.

30. A junction box having a fuse block comprising:

a body; and

10 a plurality of terminals fixed to and extending from at least one side of the body, the terminals having a first portion that contacts a fuse element and a second portion that receives a terminal of a replacement fuse.

15 31. The junction box of Claim 30, wherein the fuse block includes a plurality of connecting pieces.

32. The junction box of Claim 30, which includes a module holding one end of a plurality of wires, the module configured to mate with the fuse block and make electrical contact between the plurality of wires and the plurality of terminals.

20 33. The junction box of Claim 30, wherein the first and second portions extend from one side of the body and a third portion of the terminals extends from an opposing side of the body.

25 34. The junction box of Claim 30, wherein the terminals include a third portion that connects at least two of the plurality of terminals.

35. The junction box of Claim 30, which includes a protective member that mounts between the first and second portions of the terminals.

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36. The junction box of Claim 30, which includes a protective member that covers at least one fuse element and enables a person to safely mount replacement fuses to the second portions of the terminals.

5 37. The junction box of Claim 30, which includes a protective member that defines a plurality of apertures, the apertures positioned and arranged to fit around the plurality of terminals.

10 38. The junction box of Claim 30, wherein the protective member defines a plurality of apertures positioned and arranged to receive a plurality of mounts that project from the body.

39. The junction box of Claim 30, which includes a protective cover that fits over the plurality of terminals and mates with the body.

15 40. The junction box of Claim 30, wherein the plurality of terminals are molded into the body.

20 41. The junction box of Claim 30, wherein at least two of the plurality of terminals are provided on a strip that is molded into the body.

42. The junction box of Claim 30, wherein the second portion defines a groove that receives a male terminal of the replacement fuse.

25 43. The junction box of Claim 30, wherein the second portion includes a projection that receives a female terminal of the replacement fuse.

44. The junction box of Claim 30, wherein the first portion defines a groove that electrically contacts the fuse element.

30 45. The junction box of Claim 30, wherein the first portion electrically contacts a surface mounted fuse element.

46. A terminal for a fuse block including:
a first portion that extends from the fuse block and contacts a fuse element; and
a second portion that extends from the fuse block and receives a terminal of a

5 replacement fuse.

47. The terminal of Claim 46, which includes a plurality of projections, wherein
the first portion includes a first groove defined by the projections and the second
portion includes a second groove defined by the projections.

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48. The terminal of Claim 46, which includes a plurality of projections, wherein
the first portion electrically contacts a surface mounted fuse element and the second
portion includes a groove defined by the projections.

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49. The terminal of Claim 46, which includes a plurality of projections, wherein
the first portion includes a groove defined by the projections and the second portion
includes one of the projections.

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50. The terminal of Claim 46, wherein the first portion electrically contacts a
surface mounted fuse element and the second portion includes a projection.

51. The terminal of Claim 46, wherein the second portion extends further from the
side of the fuse block than does the first portion.

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52. The terminal of Claim 46, which defines an aperture that helps the terminal to
be securely molded into the fuse block.

53. The terminal of Claim 46, which includes a third portion that extends from the
fuse block and contacts an electrical lead.

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54. The terminal of Claim 46, wherein the first and second portions extend from
the same side of the fuse block.

55. The terminal of Claim 46, which includes a third portion that electrically connects to another terminal.

5 56. The terminal of Claim 55, wherein the third portion defines an aperture that helps the terminal to be securely molded into the fuse block.

57. A method of providing fuse protection comprising:

10 providing a body, a plurality of terminals fixed to and exposed on at least one side of the body and a fuse element contacting at least two of the plurality of terminals; and

providing a location on the plurality of terminals for receiving a terminal of a replacement fuse when the fuse element opens.

15 58. The method of Claim 57, which includes providing a first set of terminals and a second set of terminals, wherein the fuse element contacts a first terminal from the first set and a second terminal from the second set, the sets positioned and arranged so that the first and second terminals can receive the replacement fuse.

20 59. The method of Claim 58, which includes providing a plurality of fuse elements that individually contact a terminal from the first set and a terminal from the second set.

25 60. The method of Claim 58, which includes positioning and arranging the first and second sets of terminals so that a plurality of replacement fuses can be received by a unique terminal from each set.

61. The method of Claim 58, which includes electrically connecting the first
30 terminal of the first set to at least one other terminal of the first set.

62. The method of Claim 58, which includes providing a third set of terminals and another fuse element that contacts the first terminal from the first set and a third terminal from the third set, the first and third sets positioned and arranged so that the first and third terminals can receive another replacement fuse.

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63. A method for providing fuse connections in an automobile comprising:
locating a plurality of junction boxes having fuse-linked terminals proximate to
localized loads within the automobile;

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electrically connecting the fuse-linked terminals to the localized loads; and
bringing power to the fuse-linked terminals.

64. The method of Claim 63, wherein the plurality of junction boxes have
differently rated fuse links.

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